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Hepatitis C

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Race/Ethnicity and HCV

Several recent reports have examined race/ ethnicity and how it impacts the natural history and treatment of hepatitis C.

Treatment in African Americans

In the June 2004 issue of Hepatology, Lennox Jeffers, MD, and colleagues reported on a study of 78 blacks and 28 whites receiving HCV treatment for the first time. Subjects had genotype 1 HCV, elevated ALT, and no evidence of cirrhosis. After being treated with Pegasys brand pegylated interferon plus ribavirin for 48 weeks, 26% of blacks achieved a sustained virological response (SVR), compared with 39% of whites. Paired biopsies from 53 blacks and 16 whites revealed that more than 90% in both groups showed improved or stabilized fibrosis progression; among the black subjects, 22% showed improvement despite the lack of SVR. Side effect rates were generally higher in whites, and more whites than blacks discontinued due to adverse events, but more blacks had their Pegasys doses reduced, usually due to neutropenia (low level of a type of white blood cell called neutrophils; healthy blacks tend to have naturally lower neutrophil levels than

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whites). Although still lower than the SVR rate in whites with genotype 1 (40-50% in most studies), the researchers noted that this study produced "the highest response rate to treatment observed in a black population" to date.

In a second study, reported in the May 27, 2004 issue of the New England Journal of Medicine, Andrew Muir, MD, and colleagues treated 100 black and 100 white subjects (98% in both groups had genotype 1) with Peg-Intron brand pegylated interferon plus ribavirin for 48 weeks. SVR rates in this study were much lower for blacks than whites: 19% vs 52%, respectively. Black subjects also had lower early virological response (at 12 weeks) and end-of-treatment response rates.

Ethnicity, Transmission, and Disease Progression

In a study reported in the June 2004 issue of Clinical Gastroenterology and Hepatology, Anne Celona and colleagues examined demographic and laboratory data from 1,271 patients with HCV antibodies at a Los Angeles clinic (about 7% Asian, 18% African American, 25% Caucasian, and 49% Latino). In terms of exposure, injection drug use was the presumed cause of infection for a majority of Caucasian men and women, and African American and Latino men, but a negligible cause among Asians; more Asians and Latinos had received blood transfusions than Caucasians or African Americans. Among Asians, HCV prevalence rates were similar in men and women, but in the other three ethnic groups the majority of HCV-infected subjects were men. Asians were most likely and Latinos least likely to be coinfected with hepatitis B. Latinos had significantly higher ALT and bilirubin levels and lower serum albumin levels than all the other ethnic groups. Celona's team did not look at liver histology (tissue damage), but a previous study found higher rates of liver fibrosis in Latino patients compared with whites or blacks.

In the same issue, Kester Crosse and colleagues reported on a retrospective comparison of laboratory and histological findings in 87 black and 136 white subjects with chronic HCV evaluated at the University of Maryland. Black patients were on average three years older and were more likely to have genotype 1 HCV (95% vs. 75%). Modes of HCV transmission, estimated duration of infection, and rates of heavy alcohol use were similar in both groups. However, the black subjects had lower average ALT levels (and more had normal ALT), as well as lower average total Knodell Histologic Activity Index (HAI) scores, indicating less necrosis (liver cell death), fibrosis, and inflammation. The authors concluded that black patients with chronic HCV patients "have milder liver necroinflammation and fibrosis than white patients with similar HCV duration." Other studies have simi-

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larly shown that African Americans appear to be less likely than whites to suffer progressive liver damage due to hepatitis C.

It is unclear why different racial and ethnic groups appear to sustain different levels of liver damage and respond differently to treatment for hepatitis C. In an editorial accompanying the Celona and Cross articles, Fareed Rahman, MD, and Barbara Rehermann, MD, examined some of the factors that may come into play, including differences in immune function (e.g., HCV-specific CD4 and CD8 cell activity, types of HLA molecules) and different patterns of early (24-48 hour) response to interferon. A large National Institutes of Health study called VIRAHEP-C is underway that will hopefully shed further light on this issue.

Sexual Transmission of HCV

In the May 2004 issue of the American Journal of Gastroenterology, Carmen Vandelli and colleagues published data that appear to confirm that sexual transmission of hepatitis C among monogamous, heterosexual couples is very rare. In this long-term prospective study, the researchers followed 895 HCV-uninfected individuals who had a monogamous sexual relationship with an HCV-infected partner; 776 individuals were followed for 10 years (the rest ended their relationships, were lost to follow-up, or the infected partner clearly HCV with treatment and thus no longer carried the virus). On average, the couples reported sexual intercourse 1.8 times per week. They reported that they did not use condoms, did not practice anal intercourse, and did not have sex during menstruation.

Just three new HCV infections in the uninfected partners were observed during follow-up, for an incidence rate of 0.37 per 1,000 person-years. However, in one case the newly infected partner had a different genotype than the spouse, ruling out sexual transmission; in the other two cases, the newly infected partners had different HCV viral isolates than their spouses, again indicating that sexual transmission was not the cause of infection.

"Our data indicate that the risk of sexual transmission of HCV within heterosexual monogamous couples is extremely low or even null," the researchers concluded. This study supports the usual recommendation that monogamous heterosexual couples do not need to use condoms to prevent transmission of hepatitis C. Other research, however, suggests that sexual transmission rates are higher among men who have sex with men and people with multiple sexual partners, so for these groups safer sex practices are often advised.